UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/940,758	08/28/2001	Jean Louis Calvignac	RAL920000106US1	5788

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EXAMINER
NGO, NGUYEN HOANG

ART UNIT	PAPER NUMBER
2616	

DATE MAILED: 06/21/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

	Application No.	Applicant(s)
	09/940,758	CALVIGNAC ET AL.
Office Action Summary	Examiner	Art Unit
	Nguyen Ngo	2663

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 April 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-39* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *15-39* is/are allowed.

6)☒ Claim(s) *1 and 12* is/are rejected.

7)☒ Claim(s) *2-11,13 and 14* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

This communication is in response to the amendment of 4/27/2006. Accordingly,

Claims 1-39 are currently pending in the application.

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1, and 12, are rejected under 35 U.S.C. 102(e) as being anticipated by

Uzun (US 6606681), hereinafter referred to as Uzun.

Regarding claim 1, Uzun discloses a method for realizing a content addressable

memory including an associative memory and a random access memory portion/status

memory (method for identifying a data structure (data structure in status memory)

associated with a packet of data, col2 lines 20-25). Uzun further discloses;

        receiving packets and that the address for each packet is extracted from the

packet header and provided as a search key (receiving a packet of data and extracting

one or more fields from a packet header of said packet of data to generate a search

key, col4 lines 59-64).

that the key is provided as a search string to a CAM (col4 lines 60-61) and that

the CAM includes a plurality of entries, each including a valid bit and a key (selecting a

table (CAM) to be accessed using said search key, figure 1A and col1 lines 50-53).

of a packet processing engine that forwards the extracted address information in

the form of a search string to CAM control logic (identifying said data structure

associated with said packet (as explained below) of data using a content addressable

memory, col5 lines 35-37). It should be noted that claim 1 states, determining the data

structure using either a CAM or a tree based on a table definition of said selected table.

Examiner thus correlates the use of the search string within the CAM to correlate with

determining to identify said data structure using a content addressable memory.

of a status memory that includes information status bits associated with the keys

in the CAM and that each address location in the CAM has a direct relationship with the

data stored in the status memory and that the data structure for an entry stored in status

memory is four binary bits (identifying said data structure associated with said packet of

data (correlating to data structure for an entry in the status memory associated with

address location and key which is associated with said packet) in response to said

determination step, col6 lines 49-65).

Regarding claim 12, Uzun discloses that the data structure for an entry stored in status

memory is four binary bits and that forwarding decisions for the packet are determined

based on the values (performing a particular action (forwarding decision) on said packet

of data based on said data identified, structure col6 lines 56-65).

Allowable Subject Matter

3.   Claims 15-29, 30-34 and 35-39 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

4.   Claims 15 and 35 is are allowable over the prior art of record since the cited references taken individually or in combination fails to particularly disclose **having said content addressable memory coupled to said tree search engine via an interface unit, wherein said content addressable memory stores a plurality of entries, wherein each of said plurality of entries has an entry number associated with it; and wherein said tree search engine comprises circuitry for identifying said data structure associated with said packet of data.** It is noted that the closest prior art, Uzun (US 6606681) discloses the method for realizing a CAM including an associative memory and a random access memory/status memory. However, Uzun fails to disclose or render obvious to the above underline limitations as claimed.

5.   Claims 30 is are allowable over the prior art of record since the cited references taken individually or in combination fails to particularly disclose **transferring said search key to a content addressable memory by a tree search engine configured to identify said data structure associated with said packet of data; identifying a particular entry number in said content addressable memory based on said search key;.** It is noted that the closest prior art, Uzun (US 6606681) discloses the

method for realizing a CAM including an associative memory and a random access memory/status memory. However, Uzun fails to disclose or render obvious to the above underline limitations as claimed.

6.   Claims 2-11, 13, and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

7.   Applicant's arguments, see Remarks, filed 4/27/2006, with respect to claims 2, and 30-33 have been fully considered and are persuasive. The rejection of claims 2, and 30-33 has been withdrawn.

8.   Applicant's arguments, with respects to claim 1 and 12, filed 4/27/2006 have been fully considered but they are not persuasive.

9.   Applicant submits that Uzun does not teach selecting a table to be accessed using a search key that was generated by extracting one or more fields from a packet header of a packet of data. As discussed in claim 1, Examiner posits that it is not unreasonable to correlate the extraction of the address from the packet header to be use as a search string to a CAM to correlate to extracting one field from a packet header to generate a search key (search string, col4 lines 59-62 and as seen in figure 2c, 3, and 4). Examiner then posits that it is not unreasonable to correlate the use of search string to a CAM to correlate to selecting a table to be accessed using said

search key. In response to applicant's argument that the references fail to show certain

features of applicant's invention, it is noted that the features upon which applicant relies

(i.e., selecting a table, as defined in the Specification) are not recited in the rejected

claim(s). Although the claims are interpreted in light of the specification, limitations from

the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26

USPQ2d 1057 (Fed. Cir. 1993). Examiner thus correlates the CAM as the table to be

accessed using the search string, and since the search string is provided to the CAM,

the CAM has been "selected to be accessed using a search key (string)".

10.   Applicant further submits that Uzun does not disclose determining whether to

identify said data structure associated with said packet of data using a content

addressable memory (CAM) or a tree based on a table definition of said selected table.

As stated by the applicant (remarks page 3), Uzun discloses extracting address

information in the form of a search string (search key) to the CAM control logic and the

use of a CAM. As stated in claim 1, it should be noted that the limitation states"

determining the data structure using either a CAM or a tree based on a table definition

of said selected table". Thus "determining the data structure using a tree based on a

table definition of said selected table" is an alternative form due to "or" and thus the

Examiner correlates the use of the search string within the CAM to correlate with

determining to identify said data structure using a content addressable memory.

11.   Applicant further submits that Uzun does not disclose identifying said data

structure associated with said packet of data. As stated in claim 1, Uzun discloses the

CAM has a direct relationship with the data stored in the status memory and that the

data structure for an entry stored in status memory is four bits and that forwarding

decisions for the packet are determined based on the values of the status bits (col6

lines 49-64).

Conclusion

12.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

13.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Nguyen Ngo whose telephone number is (571) 272-

8398. The examiner can normally be reached on Monday-Friday 7am - 3:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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SUPERVISORY PATENT EXAMINER